

Principal Investigator- Dr. Margaret Lumia, 609.826.4984, Margaret.Lumia@doh.state.nj.us

Project Coordinator- Dr. Marija Borjan, 609.826.4984, Marija.Borjan@doh.state.nj.us

Web Address: <http://nj.gov/health/surv/>

Brief Overview

Occupational Health Indicators (OHIs) provide a snapshot of the health of workers in New Jersey. These indicators can be used by public health officials to track work-related adverse health effects and their causes.

Major Accomplishments/Outputs

The OHS Unit submitted all 19 OHIs for 2008 to NIOSH. The 2008 OHIs have been posted on the NJ Department of Health (NJDOH) Consumer, Environmental and Occupational Health Service, NJ SHAD (State Health Assessment Data), and the CSTE websites. Examples are provided in Tables 1 and 2 below. Quality control activities were conducted for selected OHIs from 2008. Data for 2009 OHIs are still being collected and calculated. A new OHI has been added. OHI #20, Hospitalizations for Work-Related Back Disorders, will be calculated for the 2009 report and future data collections. As a result of changes in the requirements for the transmission of claims information from claims administrators (insurers, self-insured employers and third party administrators) to the NJ Department of Labor and Workforce Development, NJ has not generated Amputations Filed with State Workers' Compensation System and Annual Number of Carpal Tunnel Syndrome Cases Filed with State Workers' Compensation System since 2008. Since these changes do not meet data quality standards, these two OHIs cannot be accurately calculated.

Table 1. New Jersey Occupational Health Indicators Demographics, 2008-2009

Demographics	2008	2009
Percentage of civilian workforce unemployed	5.4	9.1
Percentage of civilian employment self-employed	5.0	5.2
Percentage of civilian employment in part-time jobs	15.5	17.7
Percentage of civilian employment by number of hours worked		
<40 hours	30.8	35.5
40 hours	46.0	43.3
41+ hours	23.3	21.2
Percentage of civilian employment by sex		
Males	48.1	52.9
Females	51.9	47.1
Percentage of civilian employment by age group		
16 to 17	1.2	0.8
18 to 64	94.0	94.2
65+	4.8	5.1
Percentage of civilian employment by race		
White	76.4	78.1
Black	13.4	12.2
Other	10.2	9.7
Percentage of civilian employment by Hispanic origin	16.3	17.4

Source: NJ Department of Labor and Workforce Development.

Table 2. Selected 2008 and 2009 New Jersey Occupational Health Indicators

Occupational Health Indicator	2008	2009
Annual average # of adults (civilian non-institutionalized) working in NJ ¹	4,261,000	4,138,000
Percentage of employed persons in high mortality risk industries ¹	10.96	9.63
Estimated annual total number of work-related injuries and illnesses ²	88,700	87,400
Annual Number of Work-Related Fatalities ¹	92	99
Estimated annual number of amputations involving days away from work ¹	90	450
Annual Number of Incident Mesothelioma Cases	146	141

Sources: ¹National Bureau of Labor Statistics, ²NJ Department of Labor and Workforce Development

The OHS Unit has also begun analyzing hospital discharge data for cases of occupational injuries, illnesses, and poisonings, from 2008-2011, that are reportable by NJ law in addition to the OHIs related to hospitalizations (OHIs #2, #6, and #9) to characterize populations most at risk for occupational injuries that frequently result in fatalities and to determine the number and types of occupational injuries, illnesses and poisonings (Table 3). Staff will also be participating in a workgroup to define and coordinate state reportable injury, illness and poisoning data elements.

Table 3. Selected Occupational Injuries, Illnesses and Poisonings Reportable by NJ Law, 2008-2011

Injury/Illness/Poisoning	2008	2009	2010	2011
Carpal tunnel syndrome*	29	17	11	8
Coal worker's pneumoconiosis	65	47	34	24
Pneumoconiosis, other dust inorganic	9	3	3	1
Asbestosis	1748	1583	1411	1279
Silicosis	42	25	34	24
Poisoning				
Alcohol	523	518	527	552
Petroleum products	11	13	10	14
Carbon monoxide	51	64	54	63

*Workers' compensation as payer

Sources: NJ Department of Labor and Workforce Development

Potential/Intermediate Outcomes

Using the State's hospital discharge data, the OHS Unit has begun to compose a picture of the frequency of common types of work-related injuries and illnesses among vulnerable populations (specifically race/ethnicity, age, and industry/occupational groups) for the period of 2000-2008. Based on this knowledge, intervention strategies can be devised to reach at-risk populations.

The OHIs continue to provide baseline data for the NJ Fundamental Occupational Health Surveillance Project. Understanding specific populations at risk and obtaining rates of fatal and non-fatal injuries provides an estimate of the risk in sub-groups which may be more informative than traditional counts of injuries. The information gained by analyzing the indicator data and hospital discharge data will be useful for focusing interventions on target groups such as Hispanic workers. Characterizing the populations most at risk for work-related illnesses and injuries assists in prioritizing occupational health needs at the national and state level and in effectively directing resources.

- **NJ SHAD (State Health Assessment Data) System** – The OHS Unit has been collaborating with NJDOH Environmental Public Health Tracking (EPHT) researchers to continue to incorporate occupational health indicators into the NJDOH online indicator-based information system. NJ SHAD is hosted by the NJDOH Center for Health Statistics and features numerous other leading NJ health indicators. Currently, there are two OHIs

featured in NJ SHAD, Fatal Occupational Injuries (OHI #3) and Adult Lead Exposure (OHI #13). Data and profiles for these two indicators have been updated and published to NJ SHAD. In addition, profiles have been created and data has been collected for the following OHIs that will be posted to NJ SHAD in the next few months:

- Non-fatal Work-related Injuries and Illnesses Reported by Employers (OHI #1)
 - Work-related Hospitalizations (OHI #2)
 - Hospitalizations for Work-related Burns (OHI #6)
 - Hospitalizations from or with Pneumoconiosis (OHI #9)
 - Mortality from or with Pneumoconiosis (OHI #10)
 - Incidence of Malignant Mesothelioma (OHI #12)
- ***NJDOH Office of Emergency Medical Services*** – The OHS Unit is collaborating with the NJDOH Office of Emergency Medical Services to evaluate their database as a new source of data for occupational health surveillance. Published estimates of work-related non-fatal accidents have been shown to be greatly underreported. By employing multiple independent data sources the OHS unit can identify populations, occupations, and injuries at high-risk of work place injury; monitor trends of non-fatal work-related injuries over time; and understand the relationship between severe non-fatal and fatal work-related injuries with the ultimate goal of prevention.
- ***Other Collaborations*** - The OHS Unit also collaborated with NIOSH to help pilot test the Occupational Health Indicator Tool which will store and perform calculations on OHIs based on the revised CSTE Guidance Manual. The tool will also generate customized reports and graphs; export data to Excel, Word or PDF; perform internal quality control and quality assurance activities; and automatically generate reports that can be provided to NIOSH. Staff are also members of the NIOSH and CSTE Working Group. New Jersey has also joined other occupational health surveillance states in an effort to add the NIOSH Industry and Occupation (I/O) module into the NJ BRFSS core questionnaire. NJ's PI was invited to join the NIOSH BRFSS Working Group and the NJ BRFSS Committee and is collaborating with the state BRFSS project coordinator to incorporate the I/O module into the 2012 core questionnaire.
- ***Conferences***-OHS staff attended the Northeast Regional Occupational Disease and Injury Surveillance Conference in Chester, CT from May 7-8, 2012. Staff also attended the Occupational Health Surveillance Partners meeting in Orlando, FL in December 2011 and in Omaha, NE in June 2012.

Future Plans

The OHS Unit will continue to generate OHIs on an annual basis as data become available and participate in joint collaborations with CSTE and other funded states. The OHS Unit will also promote the indicators to the public, policy makers and the NJ public health community. OHI surveillance data will continue to be posted on-line and updated regularly. Currently the most recent data on workplace fatalities, non-fatal work-related injuries and illnesses, and a few select OHIs are featured on the OHS Unit website. However, the website will be updated to include other useful links and data to attract a wider audience. Profiles have been created and data has been collected for six new indicators that will be posted to the NJ SHAD website within the next few months and a new site is being created specifically for OHIs to share significant occupational health findings with the public. Emerging issues, high-risk occupations, industries and worker populations will also be characterized, which will allow us to prioritize occupational health needs.

Principal Investigator- Dr. Margaret Lumia, 609.826.4984, Margaret.Lumia@doh.state.nj.us

Project Coordinator- Karen Worthington, MS, RN, COHN-S, 609.826.4984, Karen.Worthington@doh.state.nj.us

Web Address: <http://nj.gov/health/surv/>

Brief Overview

Occupational exposure to respirable crystalline silica (RCS) is a serious but preventable health hazard. Exposure to RCS occurs in construction, mining, manufacturing and other industries, and can result in silicosis and other lung diseases. The overall goal of the Silicosis Surveillance Project is to: identify potential cases of silicosis; classify cases in accordance with established case confirmation criteria; evaluate exposures associated with the cases; identify new industries, occupations, and causes associated with this condition; and implement interventions to prevent silicosis in New Jersey.

Major Accomplishments/Outputs

Case Ascertainment and Industries Associated with Cases

Due to a backlog of cases, the NJ OHS Unit processed more than twice the average number of potential silicosis reports this year, resulting in confirmation of 30 newly identified cases of silicosis. This latest case data was submitted and approved by the National Institute of Occupational Safety and Health (NIOSH). At this time, NJ OHS staff also made updates to the database to allow for GIS-mapping of case and employer data.

The 30 new silicosis cases were distributed among the 4 major industrial sectors consistently associated with silicosis in NJ: manufacturing (53%), construction (27%), mining (13%) and services (6%). Of note is the fact that the average age of construction cases at the time of case confirmation was more than 20 years younger than cases who worked in mining or manufacturing. This supports the continued need for NJ to maintain our longstanding efforts to improve the development and use of silica control measures in the construction industry, while at the same time, monitoring the manufacturing and mining sectors for multiple case sites and emerging trends.

Potential Outcomes

▪ *Preventing Silicosis in Industries Supplying the Hydraulic Fracturing Industry*

Industrial hygienists from NIOSH's Oil and Gas Extraction Health & Safety Program recently measured and reported alarming overexposures to silica dust among workers involved with delivery of fine grade sand to hydraulic fracturing drilling sites. Although the bulk of the sand used for this purpose is mined in northern states near the Great Lakes, NJ's OHS Unit, with the assistance of the NJ State Geologist, will be checking for new production at NJ's 55 sites where sand is mined. Opportunities to go on-site to characterize this hazard will be actively pursued.

▪ *Outreach and Dissemination of Latest Control Measure Information to NJ Mines*

Between 1979 and 2008, 91 cases of silicosis were associated with 26 different mine sites in NJ. Industrial hygiene visits were made to 14 of these sites by OHS Unit staff. Currently, 11 of these sites remain active. Major outreach efforts are planned for all active mines in NJ, with specific activities to be focused at the 11 former visit sites. NIOSH's Office of Mine Safety and Health Research (OMSHR) has partnered with NJ OHS to provide a NJ-specific data analysis using the raw Mine Safety and Health Administration (MSHA) data to which it has access. Analysis includes: most recent mine demographics, injuries/illnesses/fatalities, silica sampling data from MSHA visits and violations issued by MSHA. NJ OHS plans to use this data as a baseline for outreach to NJ's 76 active mines.

Outreach will include distribution of the two latest NIOSH OMSHR resources on dust control in mining sites:

- NIOSH Publication No. 2010-132: Best Practices for Dust Control in Metal / Nonmetal Mining
- NIOSH Publication No. 2012-112: Dust Control Handbook for Industrial Minerals Mining and Processing

▪ *Data Harmonization*

NJ OHS staff are partnering with NIOSH and other OHS states to review and harmonize data elements collected by states as part of their mandatory reporting of occupational diseases, injuries, and illnesses.

Intermediate Outcomes

▪ *Collaboration with Stakeholders and Partners to Improve/Implement Dust Control Measures*

The NJ OHS Unit is a member of the NJ Silica Outreach and Research (SOAR) Alliance, a multiple partner team consisting of representatives from industry, labor and state and federal agencies. The SOAR Alliance has been successful in identifying practical control measures to reduce silica exposures, mainly during construction activities. Past work was focused on readily available water controls for jackhammers. The Alliance is now undertaking the high exposure task of dowel drilling (Figure 1). The SOAR Alliance is working to identify field testing sites in NJ for the on-going NIOSH study of dowel-drilling control methods to prevent silica exposure. Another high-exposure task identified for future action by the SOAR Alliance is abrasive blasting (particularly of graffiti) in road construction, maintenance and repair.

Figure 1: Dowel-drilling without control measures



A newly identified goal of the SOAR Alliance is to gather information and web-site links describing engineering controls and work practices that can reduce silica exposure, in both large and small scale construction enterprises as well as other industries. NJ OHS Staff were instrumental in connecting researchers at the Washington, DC-based Center for Construction Research and Training (CPWR) with the SOAR Alliance. CPWR health & safety professionals are currently developing an extensive database of silica controls for use by contractors, unions and health and safety professionals. NJ SOAR hopes to contribute to this effort by providing information about successful control measures along with videos, pictures and links to SOAR Alliance member group websites.

End Outcomes

▪ *Evaluation of the NJ Silicosis Project*

A goal of this project, the full evaluation of the NJ Silicosis Surveillance System, was completed this year. A presentation about the findings was made at the 2012 Council of State and Territorial Epidemiologists (CSTE) Meeting by the NJ CSTE Fellow. Six of the seven major recommendations made in the evaluation have been fully implemented resulting in more streamlined case processing, more efficient data collection and better opportunities to use the data to increase case identification.

A significant finding from the evaluation of the data was identified. Although the gender and racial breakdown of confirmed cases is representative of the population of workers at risk of developing silicosis, the system is capturing a statistically significant smaller percentage (7%) of Hispanic workers as compared to the percentage of the potentially silica exposed Hispanic workforce (35%). This finding makes it imperative for OSH staff to explore collaborations with advocacy organizations representing Hispanic workers to identify opportunities to provide training and informational materials to this community.

▪ *Improve Primary Care Provider Reporting*

One effort undertaken this year to increase case identification was to communicate with the 42 primary care practitioners whose patients with silicosis were recently identified through other-than-physician reporting sources. Practitioners received a letter describing the NJ law requiring healthcare practitioners to report cases of silicosis; report forms and pre-paid envelopes; and a magnetic wall poster listing all of the reportable work-related and communicable diseases. Eight practitioners called back to obtain further information on the reporting requirements.

▪ *Conferences*

OHS staff attended the State-Based Silicosis Meeting in Morgantown, WA in April 2012.

Principal Investigator- Dr. Margaret Lumia, 609.826.4984, Margaret.Lumia@doh.state.nj.us

Project Coordinator- Alicia Curtis Stephens, MS, 609.826.4984, Alicia.Stephens@doh.state.nj.us

Web Address: <http://nj.gov/health/surv/>

Brief Overview

The NJ Work-Related Asthma (WRA) Surveillance project identifies potential cases of WRA; classifies cases in accordance with established case confirmation criteria; evaluates exposures associated with the cases; identifies new industries, occupations and causes associated with this condition; and implements interventions to prevent WRA in New Jersey.

Major Accomplishments/Outputs

A total of 471 confirmed WRA cases were identified between 1993 and 2008 from four sources: health care providers (HCP), workers' compensation (WC) claims, hospital discharge (HD) data and emergency department discharge (ED) data (Table 1). Currently, HD and ED data are the primary sources for case ascertainment. The numbers of cases reported by HCP and WC have been steadily decreasing since 2008. This is due to a lack of reporting by HCP and WC data no longer being accessible to the Occupational Health Surveillance (OHS) Unit.

Table 1. WRA Cases identified by Data Source, New Jersey, 1993-2008

Data Source	Asthma Classification	No.	%
HCP	Work-Aggravated Asthma	26	5.52
	RADS	44	9.34
	Known asthma inducer with objective evidence	3	0.64
	Known asthma inducer without objective evidence	63	13.38
	Unknown asthma inducer with objective evidence	8	1.70
	Unknown asthma inducer without objective evidence	86	18.26
	Insufficient data to classify	17	3.61
ED	Work-Aggravated Asthma	41	8.70
	RADS	4	0.85
	Known asthma inducer without objective evidence	4	0.85
	Unknown asthma inducer with objective evidence	2	0.42
	Unknown asthma inducer without objective evidence	46	9.77
	Insufficient data to classify	15	3.18
HD	Work-Aggravated Asthma	18	3.84
	RADS	14	2.97
	Known asthma inducer without objective evidence	12	2.55
	Unknown asthma inducer without objective evidence	26	5.52
	Insufficient data to classify	34	7.22
WC	Confirmed WRA cases	163	34.61

HCP= Health Care Provider ED=Emergency Department HD=Hospital Discharge WC=Workers Compensation

Submission and Validation of Aggregate WRA Data (1993-2008) to NIOSH

Aggregate data (1993-2008) was submitted to the Data Coordination Center of the Consortium of State-based Surveillance using the core variables that have been established under the WRA surveillance project. The dataset was validated and accepted.

Potential Outcomes

- *Pool Safety Alert*

Staff met with NJDOH's Public Health Sanitation and Safety Program to discuss a swimming pool industry focused alert on chlorine use in indoor pools. Based on discussion with the Sanitarians, OHS Staff drafted a health alert on safe manual application of chlorine to pools during adjustment of pH and chlorine levels. This health alert will be disseminated to approximately 1,000 indoor pools and to numerous outdoor pools, via local health departments in New Jersey.

- *Health Care Provider Reporting Outreach*

The OHS Unit will be giving a presentation to the Physician Task Force of New Jersey American Lung Association's Pediatric / Adult Asthma Coalition (PACNJ) and will have an exhibit at the Asthma Symposium in August to help increase WRA recognition and reporting by NJ health care professionals. The objective of the symposium is to provide New Jersey Health Care Providers with the information to diagnose and treat asthma in accordance with the latest Guidelines from the 2007 National Asthma Education and Prevention Program (NAEPP), coordinated by the National Heart, Lung and Blood Institute (NHLBI).

In May 2012, an email blast, directed at physicians in Somerset County, NJ, on reporting work-related asthmas was disseminated. An expansion to this email blast is planned for Asthma Awareness Month 2013 for all of NJ, to increase reporting by physicians, advanced practice nurses and physician assistants. Also, health care providers in the NJ WRA database who have previously reported WRA cases will receive a reminder letter informing them of the reporting regulation and the reporting form.

- *Child Care Workers Pilot Study*

A pilot-study for child care workers has been initiated with a local child care provider. This provider has approximately 6 locations, with over 100 employees. A survey for the employees is in the planning stage. Some asthmagens generally found in this industry include; cleaning agents (namely chlorine), animal dander and fragrances.

Intermediate Outcome

- *Intervention in Emergency Medical Services (ambulances) Industry*

An industry-wide intervention project addressing worker exposures to fogging disinfectants for ambulance cleaning and disinfection was initiated after identifying four cases of quaternary amine/phenol-related WRA in NJ. An educational health bulletin "Disinfectant Foggers in Ambulances Cause Illness" and a usage survey have been developed and are going through final reviews by the NJDOH's Health Care Quality Assessment-Infection Control, Public Health Sanitation and Safety and Right-To-Know programs. The draft health bulletin was reviewed and discussed at the Annual State-Based WRA Conference in April 2012. There are over 800 Emergency Medical Service (EMS) agencies in NJ. The finalized copy will be disseminated via the Health Alert Network for hospitals/EMS personnel. Also, as a result of these four WRA cases, a NIOSH Working Group has been formed to discuss the use of fogging as a disinfection process. NJ was invited to be a member of this group.

▪ *Diisocyanates and Work-Related Asthma: Findings from CA, MA, MI and NJ*

Staff continued to collaborate with other WRA surveillance states and NIOSH on a peer-reviewed publication focusing on diisocyanates, which New Jersey is the lead author. This article examines surveillance data collected by New Jersey and three other states under funding from NIOSH regarding cases of work-related asthma as a result of exposure to the chemical group, diisocyanates. The paper includes an analysis of OSHA's Integrated Management Information System (IMIS) data, which contain sampling results from enforcement inspections and consultation visits. The paper was a discussion topic at the Annual State-Based WRA meeting in April 2012. This article will be submitted to the Journal of Environmental and Occupational Medicine.

End Outcomes

▪ *Industrial Hygiene Visit/Consultations*

An Industrial hygiene consultation was provided for a full-service, fitness and wellness facility that included a three-pool aquatic center. A follow-up report was sent and includes recommendations to control workers' exposures to chlorine and hydrogen chloride using work practices, respiratory protection and personal protective equipment.

▪ *WRA Training for Schools*

Staff collaborated with the PACNJ to address WRA for school employees and participated in the School, Child Care and Environmental Task Forces. Staff conducted training aimed at reducing asthma triggers in schools for school nurses and interested facilities staff. A total of 25 people were trained, representing 54 employers.

▪ *Reducing Asthma Triggers Educational Videos*

Staff contributed to three videos on helping families recognize asthma triggers and controlling asthma in childcare facilities and in more general locations, including the workplace. The 'Tracking Your Asthma Triggers' video is available at: <http://vimeo.com/44039847>.

▪ *May Asthma Awareness Month*

NJDOH, in partnership with the U.S. Environmental Protection Agency and the Centers for Disease Control and Prevention, as well as various local partners recognized May as Asthma Awareness month. Staff prepared and collaborated with the Somerset Health Department on an email blast with a special focus on WRA for health care providers and persons working with asthma surveillance activities in that county. Over 400 individuals, including First Responders, Non-School and School nurses, Health Officers and Health Care Providers were recipients of the email. A fact sheet on WRA was also posted to the public NJDOH website available at:

http://www.nj.gov/health/eoh/survweb/wra/documents/wra_feature_5_12.pdf.

FUTURE PLANS

- Case ascertainment in ambulance workers will continue. The health bulletin, along with a survey, will be disseminated via the Health Alert Network for hospitals/EMS personnel. OHS staff plans to do a site assessment at a facility in Wall Township, where the cases were identified.
- Surveillance data will continue to be monitored on an ongoing basis to determine if there is a need to conduct focused outreach interventions for particular industries; to identify asthmagenic agents and vulnerable populations; and evaluate the usefulness of report sources.
- A chapter on WRA will be incorporated in the 2012 update of the NJ Asthma Strategic Plan. This information will be based on 2007-2008 data.

Principal Investigator- Dr. Margaret Lumia, 609.826.4984, Margaret.Lumia@doh.state.nj.us

Project Coordinator- Dr. Daniel Lefkowitz, 609.826.4984, Daniel.lefkowitz@doh.state.nj.us

Web Address: <http://nj.gov/health/surv/>

Brief Overview

The overall goal of the NJ Fatality Assessment and Control Evaluation (NJ FACE) project is to maintain and expand a surveillance system for identifying work-related fatal injuries in New Jersey. FACE researchers seek to prevent work-related fatal injuries by identifying and investigating work situations at high risk for injury, and then formulating and disseminating prevention strategies to those who can intervene in the workplace.

Major Accomplishments/Outputs

Falls in NJ Residential Construction

NJ FACE staff and a Drexel University MPH student developed a focus group project to determine barriers to the use of fall protection in small (<10 employees) companies in NJ. A three-page survey was developed, piloted and translated into Spanish. This survey was distributed at the beginning of each focus group to collect demographic and surveillance data. The remainder of the focus group involved a series of questions and answers regarding fall protection, including a discussion of the feasibility of the NIOSH Guardrail system with slide-guard attachment. Two focus groups were completed. The first was conducted in Newark, NJ with members of the Laborers' Local 55 Residential Construction Union. A second focus group was completed with Safety Liaisons from New Labor, a non-profit group based in New Brunswick, NJ. NJ FACE submitted an overview of this project for consideration of contribution to the Safety Smart Campaign. Safety Smart is a new partnership that includes OSHA, NIOSH, state government, private industry, trade associations, academia, professional and labor organizations. It is designed to prevent falls among residential construction contractors (and other workers).

Potential Outcomes

■ *Using Hospital Discharge Data to Inform Targeted Interventions*

Work-related cases from both the Emergency Department (ED) and Hospital Discharge (HD) datasets were pulled that match specific E-codes. This subset of data was used to calculate non-fatal incidence rates for nine injury categories (Table 1). Results indicated that the three leading non-fatal injury rates are among fall-related injuries, motor vehicle injuries and struck-by falling objects. Non-fatal injury rates for all nine categories will be compared to fatal injury rates using the same E-codes.

Table 1. Incidence Rate of Occupational Injuries, 2010

Injury Type	E-code	Rate/100,000 Workers; (95% CI; upper, lower)
Struck by Falling Object	E916	34; (32, 35)
Fire/Explosion	E923, E890-E899	5.1; (4.4, 5.8)
Electrocution	E988.4, E994.8, E925.9, E925.8	0; (--, --)
Fall-Related	E880-E888	180; (177, 185)
Machine-Related	E919	24; (23, 26)
Motor vehicle	E810-E825	60; (59, 63)
Submersion [drowning]	E830-832,E910	0.03; (0.01, 0.18)

Confined space (submersion, suffocation)	E913.2, E867-869, E910-E913	3.1; (2.6, 3.7)
Caught by or between/Caught accidentally in or between objects	E918	26; (25, 28)

Source: NJ department of Health, Unified Billing data, 2010

- *Visits to OSHA Area Offices*

NJ FACE staff presented an overview of the FACE project at three OSHA Area Office Staff Meetings. The presentation included the mission of FACE, examples of FACE cases and a focus and discussion of OSHA Directive CPL 02-00-134 which describes how OSHA will support the FACE program. Two additional presentations are planned including the Public Employees OSHA Program at the NJ Department of Labor and Workforce Development, which also falls under OSHA Directive CPL 02-00-134.

- *FACE Brochure*

A new NJ FACE Brochure was created. This brochure presents an overview of the FACE Project, describes in detail what FACE is (and is not) and frequently asked questions. The Brochure was posted on the NJ FACE Web site.

Intermediate Outcomes

- *NJ Safety at Rail Crossings*

NJ FACE staff were invited to participate in the NJ Safety at Rail Crossings Subcommittee at NJ Department of Transportation (DOT). Pedestrian and worker safety along NJ Transit rail lines has been a significant issue and came to the forefront as a result of the recent deaths of three teenagers in Garfield and Wayne, NJ. Three breakout groups in the areas of enforcement, engineering and education were formed to develop strategies to improve safety near and along rail lines. These strategies became part of an implementation plan given to the DOT Commissioner.

- *Committee for the Advancement of Arboriculture*

OSHA's Marlton, NJ Area Office Compliance Assistant Specialist requested NJ FACE to provide information to the OSHA Alliance with Committee for the Advancement of Arboriculture (CAA). Electronic copies of the NJ FACE Tree Trimmer and Wood chipper Hazard Alerts, the NJ FACE brochure, the NJ FACE contact information and relevant NJ FACE reports were provided. The Alliance invited NJ FACE to present an overview of the FACE project at their next meeting.

End Outcomes

NJ FACE Adult School Crossing Guard Project

- NJ FACE staff completed an *Impact Sheet* on outreach activities for adult school crossing guards. The *Impact Sheet* entitled "NIOSH-funded Program Partners with Chiefs of Police to Reduce Traumatic Injuries among New Jersey School Crossing Guards" provides readers with background information and the success of the outreach in raising awareness and improving work practices. This *Impact Sheet* is posted on the NIOSH Web site.
- Rutgers University (Bloustein School of Planning) invited NJ FACE staff to participate in a research project involving several focus groups of crossing guards. NJ FACE staff observed the first focus group where 14 crossing guards were asked specific questions (both verbally and via a written survey) related to their job (health, safety, training, etc.). Also, as part of the project, NJ FACE staff were asked to be members of the Crossing Guard Working Group Meeting, in which key stakeholders address the health and safety needs of crossing guards and develop a standardized, state-wide training program.

- NJDOH was contacted by a *Bergen County Record* reporter who was writing a story on crossing guard safety following a serious accident where a 73-year old crossing guard was struck by a vehicle. Working with the NJDOH Department of Communications, a telephone interview was arranged with the newspaper reporter. The reporter asked for a summary of the crossing guard safety project and data, including the number of fatal and nonfatal injuries in NJ during the study period. These data were referenced in the recently released article, (see Publications list).

- *Workers' Memorial Day*

NJ FACE provided OSHA's Avenel, NJ Area Office with a list of names from newspaper articles of Public Employees who died on the job in 2011. These names were read aloud at a public meeting on Workers' Memorial Day.

- *National Safety Council (NSC) Magazine*

The NSC's Safety and Health Magazine highlighted a NJ FACE report in the August 2011 edition. The Report was NJ FACE # 07-NJ-044 FACE, "Road Maintenance Worker Killed By Wheel That Separated From Truck".

Fatality Investigation Reports in Federal Fiscal Year 2012

NJ FACE ID #	Incident Category	Case Summary
11-NJ-02	Machine	A Department of Public Works employee was crushed between the dumpster and rails of a roll-off truck.
09-NJ-99	Fall	A commercial roofer fell 40 feet from an industrial warehouse. The victim was wearing fall protection, but the force of the fall caused the anchor to break free.
12-NJ-10	Machine	A laborer was crushed when the bucket and arms of the skid-steer loader he was working underneath dropped down.
12-NJ-19	Struck-by	A laborer for a landscaping company was struck by a swinging slab of concrete that had been hoisted. He and other coworkers were trying to grade the ground underneath the slab.
12-NJ-22	Machine	A mechanic was crushed when the 3-ton wood-chipping machine that he was working underneath fell on top of him.
12-NJ-24	Struck-by	A ground worker for a landscaping company was struck by a large falling piece of tree branch that had just been cut by another worker at the top of the tree.

Publications:

1. Updated NJ FACE Brochure. Available at: <http://www.nj.gov/health/surv/documents/facebro.pdf>
2. National Safety Council - Safety and Health Magazine , National Safety Council, August 2011, FACE Value, "Road Maintenance Worker Killed By Wheel That Separated From Truck." Available at: www.sh.nsc.org
3. *Bergen County Record* news article:
www.northjersey.com/news/education/education_news/Keeping_kids_safe_poses_growing_risk_for_crossing_guards.html?page=all
4. NIOSH-funded Program Partners with Chiefs of Police to Reduce Traumatic Injuries Among New Jersey School Crossing Guards. Available at: <http://www.cdc.gov/niosh/docs/2011-193/> and the PDF: <http://www.cdc.gov/niosh/docs/2011-193/pdfs/2011-193.pdf>